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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte FREDERICK DOUGLIS, PURUSHOTTAM KULKARNI,
JASON D. LAVOIE, and JOHN MICHAEL TRACEY

Appeal 2009-005510
Application 10/737,213
Technology Center 2100

Before JOSEPH L. DIXON, CAROLYN D. THOMAS, and
JAMES R. HUGHES, *Administrative Patent Judges*.

DIXON, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF CASE

Appellants appeal under 35 U.S.C. § 134 from a final rejection of claims 1-3, 7-15, 17-20, and 24-34. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

The invention is directed to a method and apparatus for data redundancy elimination at the block level. Spec. 1, ll. 10-11. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A method, in a data processing system, for reducing the size of an object, the method comprising:

- dividing an object into a plurality of blocks;
- identifying similar blocks within the plurality of blocks;
- differentially compressing the similar blocks;
- identifying identical blocks within the plurality of blocks;
- suppressing the identical blocks without differentially compressing the identical blocks;

- performing data compression on at least one block within the plurality of blocks, wherein the at least one block is not differentially compressed, wherein the at least one block is not suppressed, and wherein the step of performing data compression on the at least one block forms a reduced object; and

- storing the reduced object in a computer readable media.

REFERENCES

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Wightman	US 5,850,565	Dec. 15, 1998
Cousins	US 2002/0107866 A1	Aug. 8, 2002
Lee	US 2003/0085823 A1	May 8, 2003
Pulst	US 2003/0212653 A1	Nov. 13, 2003
McCanne	US 2004/0174276 A1	Sep. 9, 2004
Riggs	US 2004/0199669 A1	Oct. 7, 2004

REJECTIONS

Claim 34 stands rejected under 35 U.S.C. § 101 as being directed to nonstatutory subject matter. Ans. 4.

Claims 1, 10, 17, 18, 27, 33, and 34 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Cousins and Lee. Ans. 6.

Claims 2 and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Cousins, Lee, and Riggs. Ans. 9.

Claims 3, 7-9, 15, 20, 24-26, and 32 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Cousins, Lee, and Wightman. Ans. 10.

Claims 11, 12, 28, and 29 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Cousins, Lee, and McCanne. Ans. 14.

Claims 13, 14, 30, and 31 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Cousins, Lee, and Pulst. Ans. 15.

ISSUES

Have Appellants shown that claim 34 is directed to statutory subject matter under 35 U.S.C. § 101?

Has the Examiner set forth a sufficient showing of obviousness of independent claim 1? Specifically, does the combination teach or suggest “dividing an object into a plurality of blocks; identifying similar blocks within the plurality of blocks; differentially compressing the similar blocks” as recited in claim 1?

PRINCIPLES OF LAW

35 U.S.C. § 101

Statutory Subject Matter for Computer Readable Medium Claims

The USPTO is obliged to give claims their broadest reasonable interpretation consistent with the specification during proceedings before the USPTO. *See In re Zletz*, 893 F.2d 319, 321 (Fed. Cir. 1989) (“During patent examination the pending claims must be interpreted as broadly as their terms reasonably allow.”). The broadest reasonable interpretation of a claim drawn to a computer readable medium (also called machine readable medium and other such variations) typically covers forms of non-transitory tangible media and transitory propagating signals *per se* in view of the ordinary and customary meaning of computer readable media, particularly when the specification is silent. *See* MPEP § 2111.01. When the broadest reasonable interpretation of a claim covers a signal *per se*, the claim must be rejected under 35 U.S.C. § 101 as covering non-statutory subject matter. *See In re Nuijten*, 500 F.3d 1346, 1353, 1356-57 (Fed. Cir. 2007) (“transitory embodiments are not directed to statutory subject matter”).

Additionally, the U.S. Court of Appeals for Federal Circuit (CAFC) has held that transitory, propagating signals, such as carrier waves, are not within any of the four statutory categories (e.g., process, machine, manufacture, or composition of matter) of patentable eligible subject matter. Therefore, a claim directed to computer instructions embodied in a signal is not statutory under 35 U.S.C. § 101. *In re Nuijten*, 500 F.3d at 1357.

35 U.S.C. § 103

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of

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obviousness. *See In re Fine*, 837 F.2d 1071, 1073 (Fed. Cir. 1988). In so doing, the Examiner must make the factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). “[T]he Examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability.” *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). Furthermore, “‘there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness’ . . . [H]owever, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007)(quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

The question of obviousness is “based on underlying factual determinations including . . . what th[e] prior art teaches explicitly and inherently . . .” *In re Zurko*, 258 F.3d 1379, 1383 (Fed. Cir. 2001).

ANALYSIS

35 U.S.C. § 101

With respect to independent claim 34, Appellants contend that the Examiner’s suggested changes to the claim language are “unnecessary.” (App. Br. 11). The Examiner identifies at page 17 of the Answer that Appellants’ Specification at page 16 has provided “evidence that applicant intends the ‘medium’ to include signals. . . . A computer-readable medium including a carrier wave, or signal, is non-statutory subject matter.” We agree with the Examiner and

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additionally find that page 14 of Appellants' Specification similarly supports this broad interpretation of the limitation "medium" in independent claim 34. Therefore, we find Appellants' arguments to be unpersuasive of error in the Examiner's showing of a lack of statutory subject matter of independent claim 34.

35 U.S.C. § 103

The Examiner at pages 18-23 of the Answer delineates each of the elements of independent claim 1 as it relates to the corresponding teachings of the Cousins reference and concludes that Cousins teaches each of the claimed steps except for the differential compressing method of similar blocks. The Examiner further embellishes the line of reasoning for the Examiners' combination of the two teachings at pages 23-25, explaining that the Lee reference teaches differentially compressing similar blocks of adjacent data. We agree with the Examiner's detailed analysis, claim interpretation and motivation for the combination. We adopt the Examiner's line of reasoning as our own. We further note that Appellants' Specification at pages 1-3 and drawings in figures 1 and 2 teach and suggest the individual parts of the claimed invention. We find that it was well within the level of skill in the art to combine these individual prior art methods into a combined method. We further note that independent claim 1 does not set forth any relationship between the resemblance processing and the identical block processing. While the standard compression processing is then performed on those blocks which have not been processed under either of the other two prior art methodologies, we find that it would have been obvious to one of ordinary skill in the art

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to have combined this third methodology as evidenced by Cousins.

We find the basic combination of prior art methodologies to be obvious in view of the prior art rejection and further evidenced by Appellants admitted prior art in figures 1 and 2.

“What matters is the objective reach of the claim. If the claim extends to what is obvious, it is invalid under § 103.” *KSR*, 550 U.S. at 419. To be nonobvious, an improvement must be “more than the predictable use of prior art elements according to their established functions.” *Id.* at 417. Appellants have the burden on appeal to the Board of Patent Appeals and Interferences of USPTO to demonstrate error in the Examiner’s position. *See In re Kahn*, 441 F.3d at 985-86 (“On appeal to the Board, an applicant can overcome a rejection [under § 103] by showing insufficient evidence of *prima facie* obviousness or by rebutting the *prima facie* case with evidence of secondary indicia of nonobviousness.”) (quoting *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998)). Therefore, we look to Appellants’ Briefs to show error in the proffered *prima facie* case.

“The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *KSR*, 550 U.S. at 416. The Supreme Court emphasized “the need for caution in granting a patent based on the combination of elements found in the prior art,” and discussed circumstances in which a patent might be determined to be obvious without an explicit application of the teaching, suggestion, motivation test. *Id.* at 415.

Appellants argue that the proposed combination set forth by the Examiner does not teach all the claimed features of independent claim 1.

(App. Br. 13). Appellants first contend that Cousins “does not teach a method, in a data processing system, for reducing the size of an object as recited in claim 1.” (*Id.* at 14.) Appellants contend that Cousins is restricted to “character-based markup language files. In contrast, claim 1 is not restricted to character-based markup language files and can be used on *any* objects in a data processing system, including non-character-based markup language files and files that do not contain a markup language.” (*Id.*) We find Appellants’ argument to be unavailing since it is irrelevant that the claim language can cover other/additional subject matter. The Examiner maintains that contrary to Appellants’ arguments, Cousins “does teach a method for reducing the size of object as claimed; especially, there is nothing in the claim language specifies the object type, and prohibits that the object cannot be either non-character-based markup language files and files that do not contain a markup language; or character-based markup language files.” (Answer 20.) We agree with the Examiner’s claim interpretation and further note that page 1 of Appellants’ Specification states “[d]ata can take the form of files in a file system, objects in a database, or other storage, and the terms ‘object,’ ‘file,’ and ‘file object’ are *used interchangeably in this document.*” (Emphasis added.) Therefore, we find Appellants’ argument to be unavailing. Appellants further contend that Cousins does not teach or suggest “dividing an object into a plurality of blocks” as recited in claim 1. (App. Br. 14.) Appellants argue that “[c]onverting all the tags in a markup language files to a single case format is not equivalent to dividing an object into a plurality of blocks. . . . In contrast, dividing an object into a plurality of blocks, as recited in claim 1, does not change the case format of the contents of the blocks.” (*Id.* at 16.) Appellants provide no support for this contention nor have Appellants expressly defined what the object or the

blocks would be in the claimed invention. Therefore, we find Appellants' argument to be unavailing. With respect to the ordering of tags as taught by the Cousins reference, Appellants argue “[i]n contrast, dividing an object into a plurality of blocks, as recited in claim 1, does not place the blocks in any particular order. Therefore, *Cousins* does not teach or suggest the feature of ‘dividing an object into a plurality of blocks.’” Again, we find Appellants' argument that the claimed invention does not do what Cousins teaches to be unpersuasive of error in the Examiner's showing of obviousness.

With respect to the teachings of Lee regarding differentially compressing the similar blocks, Appellants argue that Lee “only computes the *differences between two adjacent data* among the received data elements and generates delta data only when the difference between the two adjacent data is less than a reference value. In other words, no differences are computed for non-adjacent data.” (App. Br. 17.) Appellants' argument is not commensurate in scope with the language of independent claim 1 wherein “adjacent” and “non-adjacent” data is not recited in the claim language. Appellants further argue with respect to an example that “[i] n contrast, claim 1 will compare all blocks with each other . . . [in] differentially compress the similar blocks.” (*Id.* at 18.) Arguments to unclaimed subject matter are not persuasive of error in the Examiner's showing of obviousness.

Appellants provide arguments based upon the teaching, suggestion, or motivation to combine (TSM test) and that the Examiner's line of reasoning for the motivation with a “purported advantage of combining the reference,” “by itself, is insufficient to provide a teaching, suggestion, or motivation to combine the references to achieve the claimed invention.” (App. Br. 19).

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We disagree with Appellants' line of reasoning and find that the Examiner has met his burden of setting forth a motivation for the combination and Appellants have not shown error therein. Therefore, we will sustain the rejection of independent claim 1 and claims 10, 17, 18, 27, 33, and 34 which Appellants have elected to group with independent claim 1. (App. Br. 13.)

With respect to dependent claims 2 and 19, Appellants set forth similar arguments with respect to the TSM test (App. Br. 20-22) which we did not find persuasive of error in the Examiner's showing of obviousness, as discussed above. Therefore, we sustain the rejection of representative claim 2 and dependent claim 19 grouped therewith.

With respect to dependent claims 3, 7-9, 15, 20, 24-26, and 32, Appellants set forth similar arguments with respect to the TSM test (App. Br. 22-26) which we did not find persuasive of error in the Examiner's showing of obviousness, as discussed above. Appellants further rely upon the arguments advanced with perspective independent claim 1 which we found unpersuasive of error in the Examiner's showing of obviousness. Therefore, we sustain the rejection of representative claim 3 and dependent claims 7-9, 15, 20, 24-26, and 32 grouped therewith.

With respect to dependent claims 11, 12, 28, and 29, Appellants set forth similar arguments with respect to the TSM test (App. Br. 27-29) which we did not find persuasive of error in the Examiner's showing of obviousness, as discussed above. Therefore, we sustain the rejection of representative claim 11 and dependent claims 12, 28, and 29 grouped therewith.

With respect to dependent claims 13, 14, 30, and 31, Appellants set forth similar arguments with respect to the TSM test (App. Br. 29-31) which we did not find persuasive of error in the Examiner's showing of

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obviousness, as discussed above. Therefore, we sustain the rejection of representative claim 13 and dependent claims 14, 30, and 31 grouped therewith.

CONCLUSIONS OF LAW

The Examiner did not err in rejecting claim 34 under 35 U.S.C. § 101; and did not err in rejecting claims 1-3, 7-15, 17-20, and 24-34 under 35 U.S.C. § 103(a).

DECISION

For the above reasons, the Examiner's rejections of claims 1-3, 7-15, 17-20, and 24-34 are sustained.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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